查询300U010A供应商

Bulletin I2039 rev. C 03/03

International
IOR Rectifier

300U(R) SERIES

STANDARD RECOVERY DIODES **Stud Version**

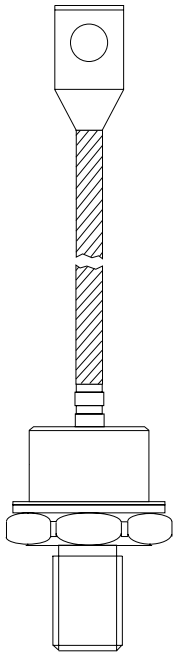
Features

- Alloy diode
- Popular series for rough service
- Stud cathode and stud anode version

300A

Typical Applications

- Welders
- Power supplies
- Motor controls
- Battery chargers
- General industrial current rectification



case style
DO-205AB (DO-9)

Major Ratings and Characteristics

Parameters		300U	Units
$I_{F(AV)}$		300	A
	@ T_C	150	°C
I_{FSM}	@ 50Hz	6550	A
	@ 60Hz	6850	A
I^2t	@ 50Hz	214	KA^2s
	@ 60Hz	195	KA^2s
V_{RRM} range		100 to 600	V
T_J		-65 to 200	°C

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak rev. voltage V	I_{RRM} max. T_J = 175°C mA
300U	10	100	200	40
	20	200	300	
	30	300	400	
	40	400	500	
	60	600	700	

Forward Conduction

	Parameter	300U	Units	Conditions		
$I_{F(AV)}$	Max. average forward current	300	A	180° conduction, half sine wave		
	@ Case temperature	130	°C			
I_{FSM}	Max. peak, one-cycle forward, non-repetitive surge current	6550	A	t = 10ms	No voltage reapplied	Sinusoidal half wave, Initial $T_J = T_J$ max.
		6850		t = 8.3ms		
		5500		t = 10ms	100% V_{RRM} reapplied	
		5750		t = 8.3ms		
I^2t	Maximum I^2t for fusing	214	KA^2s	t = 10ms	No voltage reapplied	
		195		t = 8.3ms		
		151		t = 10ms	100% V_{RRM} reapplied	
		138		t = 8.3ms		
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	2140	$KA^2\sqrt{s}$	t = 0.1 to 10ms, no voltage reapplied		
$V_{F(TO)}$	Max. value of threshold voltage	0.610	V	T_J = 200°C		
r_f	Max. value of forward slope resistance	0.751	mΩ			
V_{FM}	Max. peak forward voltage	1.40	V	I_{peak} = 942A, T_J = 25°C		

Thermal and Mechanical Specifications

	Parameter	300U(R)	Units	Conditions
T_J	Max. junction operating temperature range	-65 to 200	°C	
T_{stg}	Max. storage temperature range	-65 to 200		
R_{thJC}	Max. thermal resistance, junction to case	0.18	K/W	DC operation
R_{thCS}	Max. thermal resistance, case to heatsink	0.08		Mounting surface, smooth, flat and greased
T	Max. allowed mounting torque +0 -20%	37	Nm	Not lubricated threads
		28		Lubricated threads
wt	Approximate weight	250	g	
	Case style	DO-205AB (DO-9)**		JEDEC (See Outline Table)

** 302U-A uses IR case style B-26

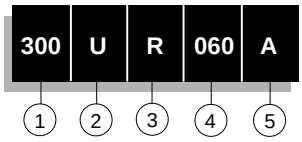
ΔR_{thJC} Conduction

(The following table shows the increment of thermal resistence R_{thJC} when devices operate at different conduction angles than DC)

Conduction angle	Sinusoidal conduction	Rectangular conduction	Units	Conditions
180°	0.020	0.015	K/W	$T_J = T_J$ max.
120°	0.024	0.025		
90°	0.031	0.034		
60°	0.045	0.047		
30°	0.077	0.077		

Ordering Information Table

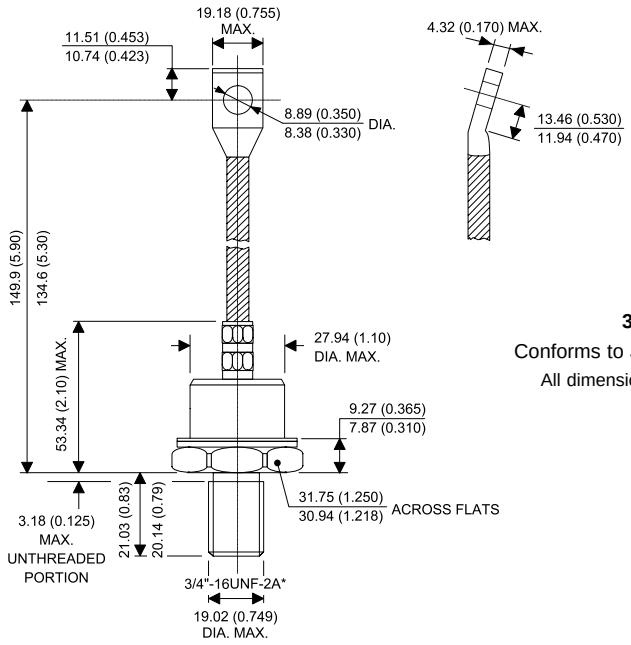
Device Code



1 - 300 = Standard 300U device
302 = 300U Top Threaded version
2 - U = Essential Part Number
3 - R = Stud Reverse Polarity (Anode to Stud)
None = Stud Normal Polarity (Cathode to Stud)
4 - Voltage code: Code x 10 = V_{RRM} (See Voltage Ratings table)
5 - A = Essential Part Number

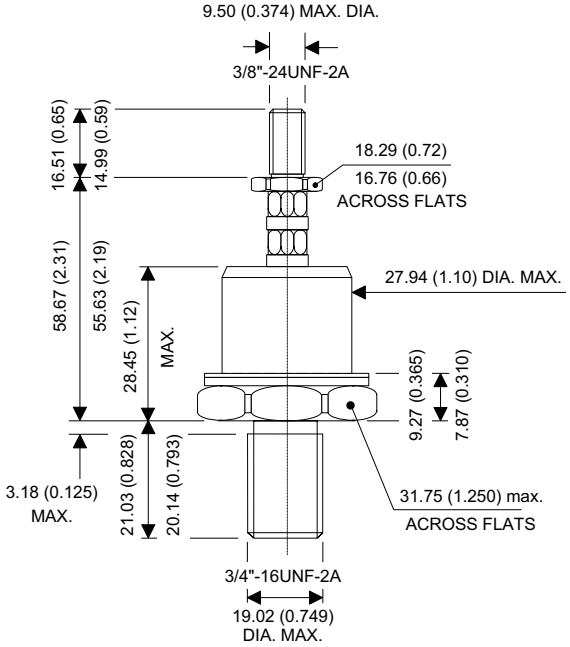
NOTE: For Metric Device M16 x 1.5 Contact Factory

Outline Table



300U-A Series
Conforms to JEDEC DO-205AB (DO-9)
All dimensions in millimeters (inches)

* FOR METRIC DEVICE: M16 X 1.5
CONTACT FACTORY



302U-A Series
IR Case Style B26
All dimensions in millimeters (inches)

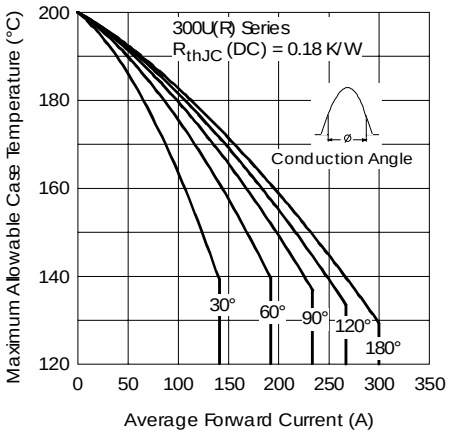


Fig. 1 - Current Ratings Characteristics

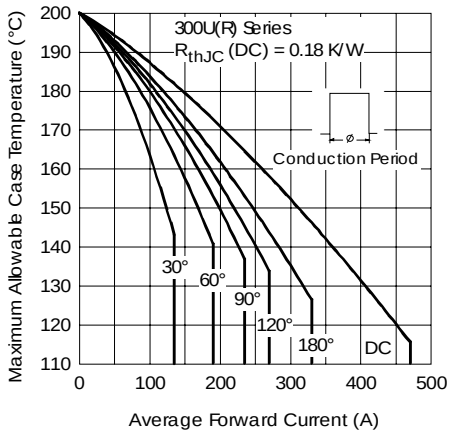


Fig. 2 - Current Ratings Characteristics

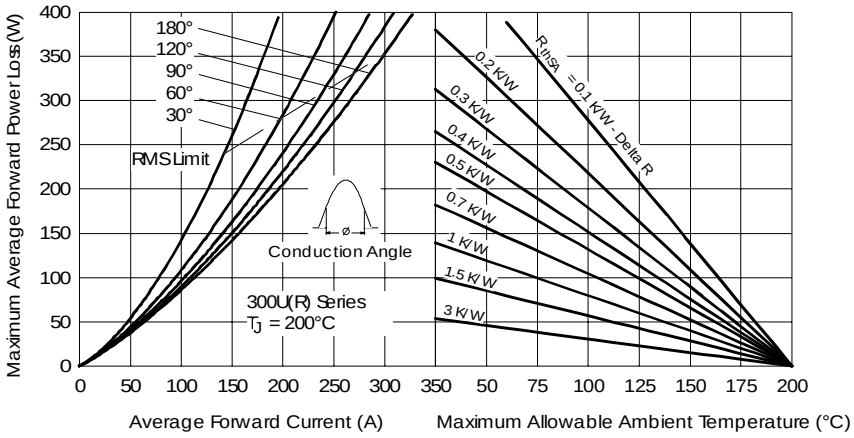


Fig. 3 - Forward Power Loss Characteristics

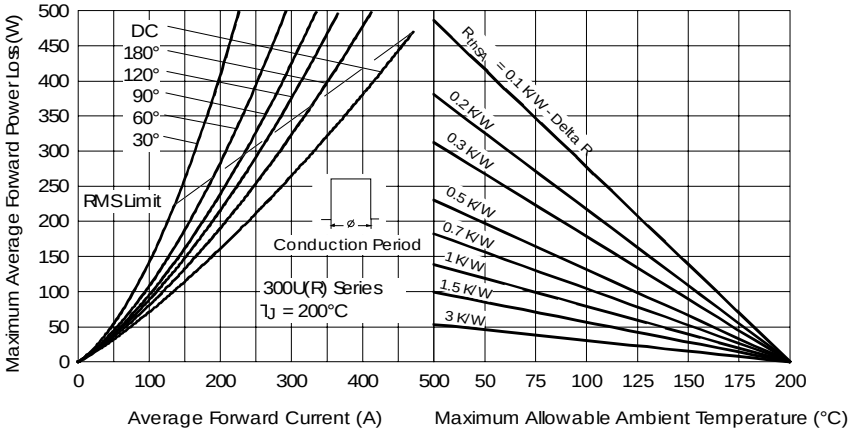


Fig. 4 - Forward Power Loss Characteristics

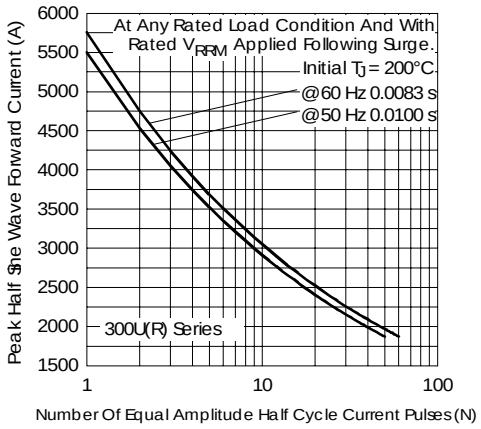


Fig. 5 - Maximum Non-Repetitive Surge Current

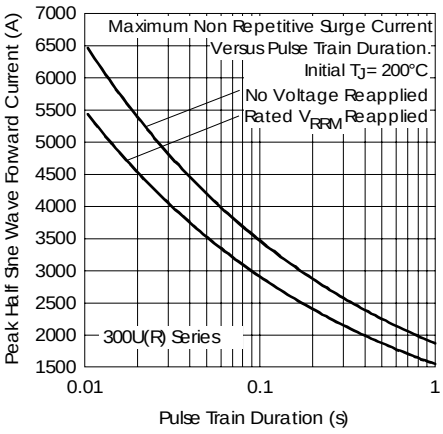


Fig. 6 - Maximum Non-Repetitive Surge Current

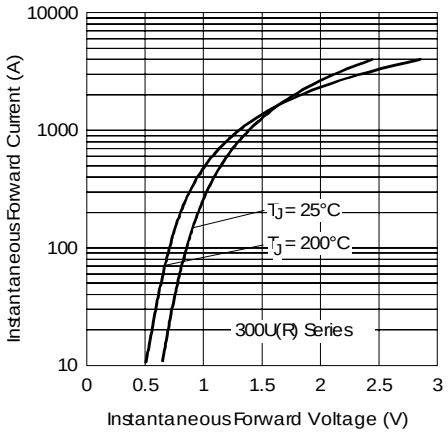


Fig. 7 - Forward Voltage Drop Characteristics

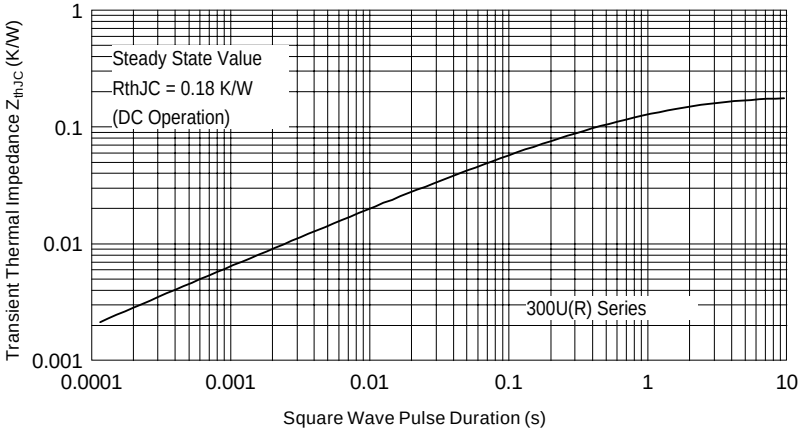


Fig. 8 - Thermal Impedance Z_{thJC} Characteristic

Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial Level.
Qualification Standards can be found on IR's Web site.

International
IOR Rectifier

IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105
TAC Fax: (310) 252-7309
Visit us at www.irf.com for sales contact information. 03/03